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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/616,488	07/08/2003	Andreas Norbert Wiswesser	002562/C3/CMP	9734

7590 09/08/2005

Patent Counsel
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EXAMINER

ROSE, ROBERT A

ART UNIT PAPER NUMBER

3723

DATE MAILED: 09/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/616,488

Applicant(s)

WISWESSER ET AL.

Examiner

Robert Rose

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 June 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 22-30 and 38-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 22,23,26-30,38-40 and 42-47 is/are rejected.
- 7) ☒ Claim(s) 24,25 and 41 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-21, and 31-37 have been canceled.
2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 22-23, 26-30, 38-39, 40, 42-43, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sandhu et al(US 5486129) in view of Hiyama et al. Sandhu et al discloses a cmp apparatus comprising substantially all of the subject matter set forth in Applicant's claims above, except for the recitation of the plurality of optical systems having sensors for independently measuring reflected light from the substrate. Note in figure 1, and column 6, lines 21-34, the use of plural optical systems(62) embedded in the platen, spaced at different angular positions about the axis of rotation, and coupled to a controller, for determining polishing endpoint. Hiyama, et al disclose plural optical systems for measuring film thickness during cmp comprising light sources and sensors which are independent. To make the light sources and sensors independent in order to independently measure film thickness at different points across the wafer to alternatively arrive at a suitable endpoint, would have been obvious as taught by Hiyama et al.
4. With regard to claim 28, to utilize only two optical apertures, to reduce the number of components for the sake of economy, would have been an obvious design expedient to those of ordinary skill in the art. To utilize light in the 300-400 nm range, or

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600-1500nm range, both in the visible range, to visually monitor the optical systems would have been no more than an obvious matter of design choice to those of ordinary skill in this art.

5. Claims 44-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sandhu et al in view of Hiyama et al and further in view of Japan No. 403234467.

Japan('467) discloses the known use of a solid window in a polishing pad to protect the optical elements. To further provide a conventional solid window in the pad above the platen in Sandhu et al to prevent slurry from entering the apertures and damaging the optical system, would have been obvious in view of Japan('447).

6. Claims 24-25, and 41 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. Applicant's arguments filed January 11, 2005 have been fully considered but they are not persuasive. Applicant has argued that Sandhu et al does not employ plural optical systems within the platen. However, each of the light transmitter/receiver units in Sandhu et al may be considered as an optical system, as broadly set forth in Applicant's independent claims. Applicant's new limitation of the sensors being independently measuring light from the substrate is deemed to be taught by Hiyama et al. Hiyama, et al clearly shows the known use of plural optical systems within the platen, each having both light source and sensor which independently measure the reflected light.

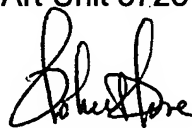
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8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

9. Any inquiry concerning this communication should be directed to Robert Rose at telephone number (703) 308-1360.

Robert Rose
Primary Examiner
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A handwritten signature in black ink, appearing to read 'Robert Rose', is written over the printed name and title.

Rr

September 1, 2005.